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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/965,738	09/27/2001	Timothy J. O'Brien	022438.43865	3856

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EXAMINER	
REDDIG, PETER J	
ART UNIT	PAPER NUMBER
1642	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/22/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	09/965,738	O'BRIEN ET AL.	
	Examiner	Art Unit	
	Peter J. Reddig	1642	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 December 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,5-11 and 37* is/are pending in the application.

4a) Of the above claim(s) *37* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3 and 5-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☑ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The Amendment filed December 27, 2006 in response to the Office Action of October 31, 2006 is acknowledged and has been entered. Previously pending claim 37 has been withdrawn, claims 1, 10, and 11 have been amended.

2. Claims 1-3 and 5-11 are currently being examined.

New Grounds of Rejection/Objection

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 10 and 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 10 recites the limitation "a transmembrane anchor of the carboxy terminal domain" in claim 1. There is insufficient antecedent basis for this limitation in the claim.

Claim 11 recites the limitation "a cytoplasmic domain of the carboxy terminal domain" in claim 1. There is insufficient antecedent basis for this limitation in the claim.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1-3 and 5-11 are rejected under 35 USC 112, first paragraph, as the specification does not contain a written description of the claimed invention. The limitation of an isolated recombinant CA125 molecule, comprising . . . a multiple repeat domain comprising residues

3200 to 3355 of SEQ ID NO: 162 claimed in claim 1 has no clear support in the specification and the claims as originally filed. Examiner's review of the specification did not reveal support for the newly added limitation. Applicant pointed to support for a multiple repeat domain comprising residues 3200 to 3355 of SEQ ID NO: 162 in the exon encoded multiple repeat unit segments, in order, of SEQ ID NO: 186, 197, 244, 271, and 287 in originally filed claim 1 and residues 3200-3355 of SEQ ID NO: 162. A review of the originally filed claim 1 revealed support for a multiple repeat domain, wherein each repeat unit comprises 5 genomic exons, wherein exon 1 comprises amino acids #1-42 in any of SEQ ID NOS: 164 through 194; exon 2 comprises amino acids #43-65 in any of SEQ ID NOS: 195 through 221; exon 3 comprises amino acids #66-123 in any of SEQ ID NOS: 222 through 249; exon 4 comprises amino acids #124-135 in any of SEQ ID NOS: 250 through 277; and exon 5 comprises amino acids #136-156 in any of SEQ ID NOS: 278 through 298. The suggested support is not found persuasive because, whiled SEQ ID NO: 162 does comprise residues 3200-3355, there is nothing in the specification to suggest an isolated recombinant CA125 molecule, comprising . . .the specific multiple repeat domain comprising residues 3200 to 3355 of SEQ ID NO: 162. Further, applicant is arguing limitations not recited in the claims as currently constituted. In addition, although the claims were previously drawn to SEQ ID NO: 150, it is clear both from a review of the specification and Applicant's arguments that residues 3200 to 3355 are not identical to SEQ ID NO: 150 and therefore SEQ ID NO: 150 does not support the newly added claim limitation. Applicant is invited to submit evidence pointing to page and line number in the specification wherein support for the newly added limitation can be found. The subject matter claimed in claims 1 broadens the scope of the invention as originally disclosed in the specification.

5. Claims 1-3 and 5-11 are rejected under 35 USC 112, first paragraph, as lacking an adequate written description in the specification.

Claims 1-3 and 5-11 are drawn to an isolated recombinant CA125 molecule, comprising: (a) an extracellular amino terminal domain, comprising amino acids #1-1637 of SEQ ID NO: 299, (b) a multiple repeat domain, comprising residues 3200 to 3355 of SEQ ID NO: 162; and (c) a carboxy terminal domain comprising amino acids #1-284 of SEQ ID NO: 300. The claims as currently constructed do not limit the amino acids contained in each domain (a), (b) and (c). Thus, the claim encompasses multiple variants of the CA125 molecule inclusive of numerous extracellular, multiple repeat, and carboxy terminal domain comprising additional amino acids in addition to the claimed amino acids. Thus, the amino acid composition and length between the various domains is not limited.

As it is drawn to the DNA arts, the findings in University of California v. Eli Lilly and Co., 119 F.3d 1559, 43 USPQ2d 1398 (Fed. Cir. 1997) and Enzo Biochem, Inc. V. Gen-Probe Inc. are relevant to the instant claims. The Federal Circuit addressed the application of the written description requirement to DNA-related inventions in University of California v. Eli Lilly and Co., 119 F.3d 1559, 43 USPQ2d 1398 (Fed. Cir. 1997). The court stated that "[a] written description of an invention involving a chemical genus, like a description of a chemical species, requires a precise definition, such as by structure, formula, [or] chemical name,' of the claimed subject matter sufficient to distinguish it from other materials." Id. At 1567, 43 USPQ2d at 1405. The court also stated that

> a generic statement such as "vertebrate insulin cDNA" or "mammalian insulin cDNA" without more, is not an adequate written description of the genus because it does not distinguish the genus from others, except by function. It does not specifically define any of the genes that fall within its definition. It does not define any structural features

> commonly possessed by members of the genus that distinguish them from others. One skilled in the art therefore cannot, as one can do with a fully described genus, visualize or recognize the identity of the members of the genus. A definition by function, as we have previously indicated, does not suffice to define the genus because it is only an indication of what the gene does, rather than what it is.

Id. At 1568, 43 USPQ2d at 1406. The court concluded that "naming a type of material generally known to exist, in the absence of knowledge as to what that material consists of, is not a description of that material." Id.

Finally, the court addressed the manner by which a genus of cDNAs might be described. "A description of a genus of cDNAs may be achieved by means of a recitation of a representative number of cDNAs, defined by nucleotide sequence, falling within the scope of the genus or of a recitation of structural features common to the members of the genus, which features constitute a substantial portion of the genus." Id.

The Federal Circuit has recently clarified that a DNA molecule can be adequately described without disclosing its complete structure. See Enzo Biochem, Inc. V. Gen-Probe Inc., 296 F.3d 1316, 63 USPQ2d 1609 (Fed. Cir. 2002). The Enzo court adopted the standard that "the written description requirement can be met by 'show[ing] that an invention is complete by disclosure of sufficiently detailed, relevant identifying characteristics ....i.e., complete or partial structure, other physical and/or chemical properties, functional characteristics when coupled with a known or disclosed correlation between function and structure, or some combination of such characteristics. " Id. At 1324, 63 USPQ2d at 1613 (emphasis omitted, bracketed material in original).

Thus, the instant specification may provide an adequate written description of an isolated recombinant CA125 molecule, comprising: (a) an extracellular amino terminal domain,

comprising amino acids #1-1637 of SEQ ID NO: 299, (b) a multiple repeat domain, comprising residues 3200 to 3355 of SEQ ID NO: 162; and (c) a carboxy terminal domain comprising amino acids #1-284 of SEQ ID NO: 300 inclusive of unknown and undefined sequences between the domains, per Lilly by structurally describing a representative number of the isolated recombinant CA125 molecule, comprising: (a) an extracellular amino terminal domain, comprising amino acids #1-1637 of SEQ ID NO: 299, (b) a multiple repeat domain, comprising residues 3200 to 3355 of SEQ ID NO: 162; and (c) a carboxy terminal domain comprising amino acids #1-284 of SEQ ID NO: 300 inclusive of unknown and undefined sequences between the domains by describing "structural features common to the members of the genus, which features constitute a substantial portion of the genus." Alternatively, per Enzo, the specification can show that the claimed invention is complete "by disclosure of sufficiently detailed, relevant identifying characteristics, functional characteristics when coupled with a known or disclosed correlation between function and structure, or some combination of such characteristics."

In this case, the specification does not describe an isolated recombinant CA125 molecule, comprising: (a) an extracellular amino terminal domain, comprising amino acids #1-1637 of SEQ ID NO: 299, (b) a multiple repeat domain, comprising residues 3200 to 3355 of SEQ ID NO: 162; and (c) a carboxy terminal domain comprising amino acids #1-284 of SEQ ID NO: 300 inclusive of unknown and undefined sequences between the domains in a manner that satisfies either the Lilly or Enzo standards. The specification does not provide the complete structure of any the CA125 molecule comprising an isolated recombinant CA125 molecule, comprising: (a) an extracellular amino terminal domain, comprising amino acids #1-1637 of SEQ ID NO: 299, (b) a multiple repeat domain, comprising residues 3200 to 3355 of SEQ ID NO: 162; and (c) a

carboxy terminal domain comprising amino acids #1-284 of SEQ ID NO: 300 inclusive of unknown and undefined sequences between the domains, nor does the specification provide any partial structure of such CA125 molecule, nor any physical or chemical characteristics of the said CA125 molecule, nor any functional characteristics coupled with a known or disclosed correlation between structure and function. Although the specification discloses SEQ ID NO: 299, 162, and 300, this does not provide a description of the an isolated recombinant CA125 molecule, comprising: (a) an extracellular amino terminal domain, comprising amino acids #1-1637 of SEQ ID NO: 299, (b) a multiple repeat domain, comprising residues 3200 to 3355 of SEQ ID NO: 162; and (c) a carboxy terminal domain comprising amino acids #1-284 of SEQ ID NO: 300 inclusive of unknown and undefined sequences between the domains that would satisfy the standard set out in Enzo.

The specification also fails to describe an isolated recombinant CA125 molecule, comprising: (a) an extracellular amino terminal domain, comprising amino acids #1-1637 of SEQ ID NO: 299, (b) a multiple repeat domain, comprising residues 3200 to 3355 of SEQ ID NO: 162; and (c) a carboxy terminal domain comprising amino acids #1-284 of SEQ ID NO: 300 inclusive of unknown and undefined sequences between the domains by the test set out in Lilly. The specification describes only a SEQ ID NO: 299, 162, and 300. Therefore, it necessarily fails to describe a "representative number" of such species. In addition, the specification also does not describe "structural features common to the members of the genus, which features constitute a substantial portion of the genus."

Thus, the specification does not provide an adequate written description of an isolated recombinant CA125 molecule, comprising: (a) an extracellular amino terminal domain,

comprising amino acids #1-1637 of SEQ ID NO: 299, (b) a multiple repeat domain, comprising residues 3200 to 3355 of SEQ ID NO: 162; and (c) a carboxy terminal domain comprising amino acids #1-284 of SEQ ID NO: 300 inclusive of unknown and undefined sequences between the domains that is required to make and use the claimed invention.

6. Some of Applicant's arguments drawn to the rejection of claims 1-3 and 5-11 set forth in the paper mailed 10/31/06, section 8, pgs 9-12 are relevant to the instant rejection.

Claims 1-3 and 5-11 remain rejected under 35 USC 112, first paragraph, for the reasons previously set forth in section 8, pages 9-11 of the Office Action of October 31, 2006 because the claims do not limit the identity of the multiple repeats, the number of multiple repeats, or the order in which the various multiple repeat sequences are joined together.

Applicant summarizes the rejection of record and summarizes the factors to be considered in determining if the inventor was in possession and has a written description of the invention. Applicant argues that the present claims and specification meet all of the factors required for written description, see page 7, 1st and 2nd full paragraphs.

Applicant argues that applicant has disclosed a complete structure of a CA125 molecule recited in the claims. Applicant argues that Table 21 with SEQ ID 162 discloses the complete sequence of the CA125 molecule. Applicant argues that claim 1 has been amended to recite an isolated recombinant CA125 molecule comprising . . . (b) a multiple repeat domain comprising residues 3200 to 3355 of SEQ ID NO: 162. Applicant argues that the specification discloses the complete structure of an isolated recombinant CA125 molecule comprising a multiple repeat domain comprising residues 3200 to 3355 of SEQ ID NO: 162. Applicant argues that Residues

3200 to 3355 are one multiple repeat domain containing the exon-encoded segments recited in the originally filed claim 1 of SEQ ID NOS: 186, 197, 244, 271, and 287 see last para. p. 7.

Applicant's arguments have been considered, but have not been found persuasive and the rejection is maintained. Although applicant discloses the complete structure of SEQ ID NO: 162, this is only one species of the CA125 structures currently claimed with a multiple repeat domain comprising residues 3200 to 3355 of SEQ ID NO: 162, which encompasses multiple combination and permutations of the structure of the multiple repeat domain. It is noted that a "representative number of species" means that the species, which are adequately described, are representative of the entire genus. Thus, when there is substantial variation within the genus, one must describe a sufficient variety of species to reflect the variation within the genus. The disclosure of only one species encompassed within a genus adequately describes a claim directed to that genus only if the disclosure "indicates that the patentee has invented species sufficient to constitute the gen[us]." See Enzo Biochem, 323 F.3d at 966, 63 USPQ2d at 1615; Noelle v. Lederman, 355 F.3d 1343, 1350, 69 USPQ2d 1508, 1514 (Fed. Cir. 2004) (Fed. Cir. 2004)("[A] patentee of a biotechnological invention cannot necessarily claim a genus after only describing a limited number of species because there may be unpredictability in the results obtained from species other than those specifically enumerated."), see MPEP 2163 II-A-3-ii.

In support of this argument of written description, Applicant points to the physical and chemical characteristics of the claimed molecule by the description of the glycosylation patterns, cleavage sites, conserved sequences, and antibody binding pattern patterns of one of the repeat subunits, SEQ ID NO: 150, described in Figure 5 and on pages, 9, 21, and 22 of the specification, see 1st para. p. 8.

Applicant's argument has been considered, but has not been found persuasive because Applicant is arguing limitations not found in the claims and the description of the glycosylation patterns, cleavage sites, conserved sequences, and antibody binding pattern patterns of the repeat units gives one of skill in the art no indication of the number, order, and identity of the multiple repeat units that make up the multiple repeat domain.

Applicant further argues that the specification discloses further that each multiple repeat unit is comprised of [segments encoded by] 5 exons whose sequences are provided (page 22, lines 8-23, and originally filed claim 1). Applicant further argues that the specification discloses that amino acids 1-42 of a multiple repeat are any of SEQ ID NOS: 164-194, amino acids 43-65 are any of SEQ ID NOS: 195-221, amino acids 66-123 are any of SEQ ID NOS:222-249, amino acids 124-135 are any of SEQ I D NOS:250-277, and amino acids 136-156 are any of SEQ ID NOS:278-298.

Applicant's argument has been considered, but has not been found persuasive because disclosure of the individual repeat units gives one of skill in the art no indication of the number, order, and identity of the multiple repeat units that make up the multiple repeat domain comprising residues 3200 to 3355 of SEQ ID NO: 162.

Applicant further argues that the specification discloses that because of the unusual length of CA125 and the homology between multiple repeat units, some of the multiple repeat units may have been incorrectly placed in SEQ ID NO: 162, and some repeat units may not as yet be identified (page 23, lines 25-27). Applicant argues that because of this, it is not appropriate to limit the claims to a CA125 molecule having a single order and number of multiple repeat units in the multiple repeat domain. Applicant argues that all of the factors to be

considered in determining whether there is sufficient evidence of possession listed in the *Guidelines for Examination of Patent Applications Under the 35 U.S.C. 112, Paragraph 1, "Written Description" Requirement* (Fed. Reg. Vol. 66, No. 4, 2001, pages 1099-1111, at 1106) are satisfied by the present application. Applicant argues that because of the size and complexity of the CA125 molecule and in particular the multiple repeat domain, which was unknown prior to Applicants' invention and discovery, it is necessary for the claims not to be limited to a single order and number of multiple repeat units in the multiple repeat domain.

Applicant's argument has been considered, but has not been found persuasive because Applicant indicates that some of the multiple repeat units may have been incorrectly placed in SEQ ID NO: 162, and some repeat units may not as yet be identified. Thus, one of skill in the art would not be able to determine what Applicant was in possession of at the time the invention was made given that the one "complete" CA125 structure, SEQ ID NO: 162, has sequences incorrectly placed in it and some repeat units may not as yet be identified. Given this and the very size and complexity of the CA125 molecule claimed by Applicant one of skill in the art would not be able to determine what Applicant was in possession of at the time the invention was made given that the molecule encompasses a multiple repeat domain that encompasses unidentified repeat units.

Specification

7. Applicant states that residues 3200-3355 are one 156-amino acid repeat unit in SEQ ID NO:162 that is identical to SEQ ID NO:150 over the first 153 of the 156 amino acids. Two of the last 3 residues of SEQ ID NO: 150 differ from the last three residues of the segment 3200-3355 of SEQ ID NO:162. SEQ ID NO: 150 was expressed by recombinant DNA means as is reported

in the specification to characterize a CA125 repeat unit, and two of the last three residues were different from the corresponding residues in SEQ ID NO: 162 because there was a restriction enzyme splice site in the nucleic acid expression vector used to express the segment, and in designing the insertion sequence to fit this splice site, those two residues of the encoded protein became altered. Upon close inspection of the sequences disclosed in the specification, it would be clear to one of skill in the art that SEQ ID NO: 150 as previously elected in the election of species requirement, corresponds to residues 3200-3355 of the full-length CA125 of SEQ ID NO:162 and consists of, in order, the exon-encoded multiple repeat unit segments of SEQ ID NOS: 186, 197, 244, 271, and 287, as recited in originally filed claim 1.

In view of the above, the disclosure is objected to because of the sequence of SEQ ID NO: 150 contains sequence errors and does not represent a multiple repeat unit of the invention. Further, it is unclear why applicant states that upon close inspection of the sequences disclosed in the specification, it would be clear to one of skill in the art that SEQ ID NO: 150 as previously elected in the election of species requirement, corresponds to residues 3200-3355 based only on encoded multiple repeat units apparently randomly chosen to have identity with SEQ ID NO: 162. It would not appear, given applicant's statements that one would immediately recognize that a minor error had occurred.

Appropriate correction is required.

8. All other objections and rejections recited in Office Action of October 31, 2006 are withdrawn.

9. No claims allowed.

10. This action is a **final rejection** and is intended to close the prosecution of this application. Applicant's reply under 37 CFR 1.113 to this action is limited either to an appeal to

the Board of Patent Appeals and Interferences or to an amendment complying with the requirements set forth below.

If applicant should desire to appeal any rejection made by the examiner, a Notice of Appeal must be filed within the period for reply identifying the rejected claim or claims appealed. The Notice of Appeal must be accompanied by the required appeal fee.

If applicant should desire to file an amendment, entry of a proposed amendment after final rejection cannot be made as a matter of right unless it merely cancels claims or complies with a formal requirement made earlier. Amendments touching the merits of the application which otherwise might not be proper may be admitted upon a showing a good and sufficient reasons why they are necessary and why they were not presented earlier.

A reply under 37 CFR 1.113 to a final rejection must include the appeal form, or cancellation of, each rejected claim. The filing of an amendment after final rejection, whether or not it is entered, does not stop the running of the statutory period for reply to the final rejection unless the examiner holds the claims to be in condition for allowance. Accordingly, if a Notice of Appeal has not been filed properly within the period for reply, or any extension of this period obtained under either 37 CFR 1.136(a) or (b), the application will become abandoned.

11. Applicant's disclosure of the error in the sequence listing necessitated the new grounds of objection and applicant's amendment necessitated the new grounds of rejection. Thus, **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 C.F.R. 1.136(a).

A SHORTENED STATUTORY PERIOD FOR RESPONSE TO THIS FINAL ACTION IS SET TO EXPIRE THREE MONTHS FROM THE DATE OF THIS ACTION. IN THE EVENT A FIRST RESPONSE IS FILED WITHIN TWO MONTHS OF THE MAILING DATE OF THIS FINAL ACTION AND THE ADVISORY ACTION IS NOT MAILED UNTIL

AFTER THE END OF THE THREE-MONTH SHORTENED STATUTORY PERIOD, THEN THE SHORTENED STATUTORY PERIOD WILL EXPIRE ON THE DATE THE ADVISORY ACTION IS MAILED, AND ANY EXTENSION FEE PURSUANT TO 37 C.F.R. 1.136(a) WILL BE CALCULATED FROM THE MAILING DATE OF THE ADVISORY ACTION. IN NO EVENT WILL THE STATUTORY PERIOD FOR RESPONSE EXPIRE LATER THAN SIX MONTHS FROM THE DATE OF THIS FINAL ACTION.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter J. Reddig whose telephone number is (571) 272-9031. The examiner can normally be reached on M-F 8:30 a.m.-5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shanon Foley can be reached on (571) 272-0890. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Peter J. Reddig, Ph.D.
Examiner
Art Unit 1642

PJR

SUSAN UNGAR, PH.D
PRIMARY EXAMINER